

A New Hybrid *Lespedeza ×miquelii* (Leguminosae)

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A new hybrid, *Lespedeza ×miquelii* S. Akiyama, a putative hybrid between *L. bicolor* Turcz. and *L. cyrtobotrya* Miq., is described and illustrated. Its floral characters show intermediacy between the two presumable parental species.

Key words: Interspecific natural hybrid, *Lespedeza*, *Macrolespedeza*.

During my studies of *Lespedeza* I collected some specimens that I presumed to be hybrids between *L. bicolor* Turcz. and *L. cyrtobotrya* Miq. (Fig. 1, upper). Moreover I found similar specimens preserved in TI and TNS and one specimen in the Siebold and his successors' collections in L (Akiyama and Ohba 2003) (Fig. 1, lower). This specimen [no. 908.118-1071] was determined as *L. bicolor* by Schindler (1913). The inflorescences and flowers of those specimens were examined in detail to clarify their identity.

The characters distinguishing *L. bicolor* from *L. cyrtobotrya* are the length of wings and keel petals, the shape of the calyx lobes, and features of the inflorescence (Akiyama 1988). The wing is shorter than the keel petal in *L. bicolor*, but longer in *L. cyrtobotrya*. The calyx lobes are ovate or triangular-lanceolate with the apex obtuse or acute in *L. bicolor*, but triangular-lanceolate and acuminate in *L. cyrtobotrya*. The inflorescence has 4–12 sparsely arranged flowers in *L. bicolor*, and 4–10 compactly arranged flowers in *L. cyrtobotrya*. The inflorescence is usually longer than the subtending leaf in *L. bicolor*, and shorter in *L. cyrtobotrya*.

The flowers and inflorescences of the specimens appear intermediate between *L. bicolor* and *L. cyrtobotrya* (Fig. 2 and Table 1). These plants are here named *L. ×miquelii*.

Lee (1965) reported a hybrid between *L. bicolor* and *L. cyrtobotrya* and named it *L. ×nakaii*. When he reported this hybrid, he designated one of the syntype specimens of *L. cyrtobotrya* Miq. var. *pedunculata* Nakai (Nakai 5583, TI) as the type of *L. ×nakaii*. I examined the type specimen and identified it as *L. cyrtobotrya* (Akiyama, 1988). This has the inflorescence longer than the subtending leaf with an elongated peduncle and compactly arranged flowers, acuminate calyx lobes and the wings longer than the keel petals. In *L. cyrtobotrya* the inflorescence is usually shorter than the subtending leaf but sometimes longer with an elongated peduncle and compactly arranged flowers (Akiyama 1988).

Although a hybrid between *L. bicolor* (as 'f. *acutifolia*') and *L. cyrtobotrya* was reported from Nasu (Biological Laboratory, Imperial Household 1972, 1985), it has not been named.

This hybrid can be expected to occur wherever *L. bicolor* and *L. cyrtobotrya* grow



Fig. 1. *Lespedeza* \times *miquelii* S. Akiyama. Upper: Holotype (H. Ohba & S. Akiyama 1556, TI). Lower: (Buerger s. n., L, no. 908.118-1071).

together, but few specimens of this hybrid are represented in TI and TNS. Interspecific natural hybrids in *Lespedeza* section *Macrolespedeza* have been reported by several workers (Lee 1965, Akiyama and Ohba

1982, 1983a, 1983b). The existence of the interspecific hybrids makes the identification of the species difficult.

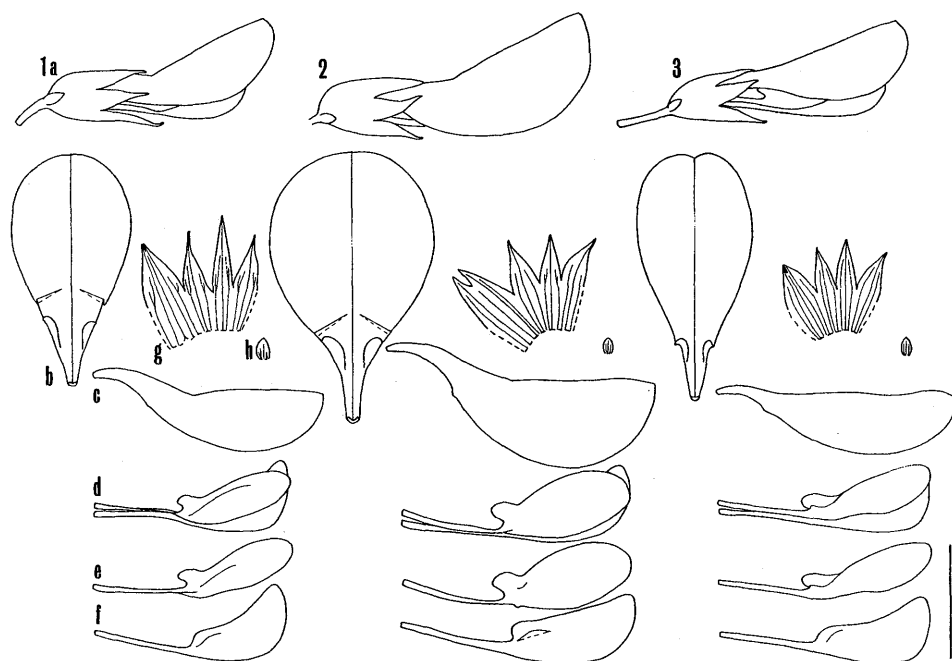


Fig. 2. Flowers of *Lespedeza* \times *miquelii* S. Akiyama. a: Flower, lateral view. b: Standard, opened. c: Standard, lateral view. d: Wing and keel petal. e: Wing. f: Keel petal. g: Calyx, dissected. h: Bracteole. 1: H. Ohba & S. Akiyama 1556, TI-holotype. 2: Buerger s. n., L, no. 908.118-1071, central branch. 3: H. Ohba & S. Akiyama 2335, TI. Bar indicates 5 mm.

***Lespedeza* \times *miquelii* S. Akiyama, hybr. nov.** [Figs. 1, 2]

L. bicolor Turcz. \times *L. cyrtobotrya* Miq.

Hybrida putativus inter *L. bicolor* Turcz. et *L. cyrtobotrya* Miq. in sect. *Macrolespedeza*.

Planta inter *L. bicolore* Turcz. et *L. cyrtobotrya* Miq., quasi intermedia in floribus et versimiliter ex hybridatione harum specierum orta, ab ambobus inflorescentia floribus sparse ornata et longiore vel brevior quam folio subtento differt. Calycem lobis brevi-acuminatis; vexillo longiore quam alis carinaque, uterque aequilongis.

The inflorescences are longer or shorter than the subtending leaf and have 4–8 flowers sparsely arranged. The flowers are illustrated in Fig. 2. The calyces are 4–4.5 mm

long, tubular, 4-lobed nearly to the middle; tube 2–2.4 mm long; lobes subequal in length or lower one longest; lateral ones 2–2.8 mm long, 0.8–1.2 mm wide, ovate or triangular-lanceolate, apex short acuminate. The standard is longer than the wing and keel petals, and the wings and keel petals are nearly equal in length ($S > W = K$). The standard is obovate, 7.8–12 mm long, 4.4–7.2 mm wide, base attenuate, apex round or retuse. The wings are 7.1–10.1 mm long and distinctly clawed; lamina narrowly obovate to obovate, 4.6–6.2 mm long, 1.5–2.7 mm wide, upper basal part auriculate; claw 4.25–4.4 mm long. The keel petals are 7–10.5 mm long, with distinct claw; lamina narrowly obovate to obovate, 4–6.2 mm long, 1.7–2.4 mm wide; claw 3–4.8 mm long. Pollen stainability is 86.1 % (more than 500 pollen

Table 1. Distinguishing characters among *Lespedeza bicolor*, *L. cyrtobotrya*, and *L. ×miquelii*

Character	<i>L. bicolor</i>	<i>L. ×miquelii</i>	<i>L. cyrtobotrya</i>
Length of wing and keel petal	wing shorter than keel petal	wing and keel petal nearly equal in length	wing longer than keel petal
Shape of lateral calyx lobe	ovate or triangular-lanceolate	ovate or triangular-lanceolate	triangular-lanceolate
Apex of calyx lobe	obtuse or acute	short acuminate	acuminate
Inflorescence	4–12 sparsely arranged flowers, usually longer than the subtending leaf	4–8 sparsely arranged flowers, longer or shorter than the subtending leaf	4–10 compactly arranged flowers, usually shorter than the subtending leaf

grains from the holotype were stained with cotton blue-lactophenol solution and counted).

Type: Japan. Honshu, Gunma Pref., Tone-gun, Shirasawa-mura, Takahira, alt. ca. 500 m (H. Ohba & S. Akiyama 1556, TI-holotype).

Other specimens examined: Japan. Honshu: Nagano Pref., Kose, Tsutsuji-daira (M. Togashi s. n., 27 Aug. 1935, TNS); Shimoina-gun, Yamato-mura, Aoki (K. Asano 8936, Sept. 1936, TI). Kyushu: (Buerger s. n., L, no. 908.118–1071, central branch). Fukuoka Pref., Chikushi-gun, Dazaifu-machi, Mt. Homan-zan, alt. 200–300 m (H. Ohba & S. Akiyama 2335, 11 Sept. 1980, TI, TNS). Miyazaki-shi, Shimokita (B. Miyazawa 37, 11 Oct. 1931, TI).

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References

- Akiyama S. 1988. A revision of the genus *Lespedeza* section *Macrolespedeza* (Leguminosae). The University Museum, The University of Tokyo, Bulletin no. 33, 1–170, pls. 1–27 (simultaneously published by University of Tokyo Press, Tokyo).
- and H. Ohba. 1982. Studies on hybrids in the genus *Lespedeza* sect. *Macrolespedeza* (1) A putative hybrid between *L. buergeri* Miq. and *L. cyrtobotrya* Miq. J. Jpn. Bot. **57**: 232–240.
- and — 1983a. Studies on hybrids in the genus *Lespedeza* sect. *Macrolespedeza* (2) A hybrid swarm between *L. homoloba* Nakai and *L. kiusiana* Nakai. J. Jpn. Bot. **58**: 97–104.
- and — 1983b. Studies on hybrids in the genus *Lespedeza* sect. *Macrolespedeza* (3) A putative hybrid between *L. buergeri* Miq. and *L. satsumensis* Nakai. J. Jpn. Bot. **57**: 248–252.
- and — 2003. Type specimens of plants described by Miquel in *Lespedeza* section *Macrolespedeza* (Leguminosae). J. Jpn. Bot. **78**: 336–348.
- Biological Laboratory, Imperial Household (ed.) 1972. *Nova Flora Nasuensis*, 395 pp. Hoikusha, Osaka.
- 1985. *Nova Flora Nasuensis Supplementum*, 395 pp. Hoikusha, Osaka.
- Lee T. B. 1965. The *Lespedeza* of Korea (1). Bull. Seoul Nat. Univ. For. (2): 1–34.
- Schindler A. K. 1913. Einige Bemerkungen über *Lespedeza* Michx. und ihre nächsten Verwandten. Bot. Jahrb. Syst. **49**: 570–658.

秋山 忍：マメ科ハギ属の新雑種，ナガサキハギ

ハギ属ヤマハギ節植物には野外で種間雑種と推定される個体がみられることが知られている。筆者は，ヤマハギとマルバハギの中間的な性質を示す個体を，自身の採集した標本や東京大学総合研究博物館および国立科学博物館に収蔵される標本，オランダ王立植物標本館（Rijksherbarium, Leiden 今日 オランダ国立植物学博物館ライデン大学分館）に収蔵されているシーボルトらの標本中に見

出した。今回，改めてその特徴を検討し，とくに花と花序の形態において両種の間隔的な現れを示すことにもとづいて，これらの個体をヤマハギとマルバハギの雑種と判断した。この雑種を *Lespedeza ×miquelii* と命名し，和名には，ライデンに収蔵される標本の採集地と推定される長崎に因みナガサキハギを提唱した。

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